Chapter Seven – Alternatives Analysis

7.0 INTRODUCTION

The operational analysis of the Preferred Concept Plan identified two key constraints: the one-lane roundabout at Texas Street and the parallel parking along University Avenue. These constraints would result in operational breakdown along the corridor and blocking of side-street access at signalized and unsignalized intersections. Excessive queues were observed on University Avenue at the Texas Street roundabout that extended as far as Florida Street to the west and Utah Street to the east. Preferred Concept Plan travel times for passenger vehicles exceeded the 2030 No Build conditions travel times and the delay at some intersections doubled and tripled when compared to the No Build conditions. In the a.m. peak, westbound transit time with the Preferred Concept Plan also exceeded the No Build conditions.

Therefore, several alternatives were identified that would return travel time along the corridor to a reasonable level. This is critical in maintaining the character of the corridor. To continue to stimulate commercial development along University Avenue, it is critical that visitors perceive University Avenue as accessible and a great place to shop, live and play. If the corridor is inaccessible, then it will be perceived as a place to avoid due to congestion. The goal of the Preferred Concept Plan is to slow traffic and create a pedestrian friendly environment that will work in conjunction with the revitalization of North Park. These goals can still be met while providing reasonable levels of delay and acceptable travel times to both passenger vehicles and transit vehicles.

The alternatives identified and evaluated in this chapter do not deviate widely from the Preferred Concept Plan. Each alternative varies one or more of the following five variables:

- ❖ Length of Transit Only Lane
- ❖ Traffic Control Method at Texas Street
- ❖ Alignment of Texas Street
- ❖ Traffic Control at Ohio Street
- ❖ Relocation of Parallel Parking away from University Avenue to accommodate continuation of the transit only lane through the business core.

All alternatives maintain the same pedestrian access, raised median design, and transit improvements.

Parking is a key issue in the community of North Park. Overall, there is a parking shortage, not only along University Avenue, but also along the side streets and parallel streets throughout the community. Much of the parking with 200 feet of University Avenue is restricted parking, limiting the duration of time that a vehicle may park in a designated space. Since the parallel on-street parking along University Avenue is one of the key constraints along the corridor in the Preferred Concept Plan scenario removing the parking would greatly reduce the forecast delays and queues entering the corridor from the east, primarily from I-805. However, the removal of parking would not come without some resistance from

Chapter 7 – Alternatives Analysis

local business owners. Therefore, five parking alternatives were identified to help maximize the available parking while providing for efficient mobility through the corridor.

The result of the Alternatives Analysis was the identification of the Refined Concept Plan, Alternative 5a, illustrated in Exhibit 7-1. The selection of the Refined Concept Plan was determined based on the best operational balance of traffic, transit, pedestrians and bicycles. The Refined Concept Plan was presented to City and SANDAG staff and the Steering Committee established for this project, as well as to the community at two public meetings.
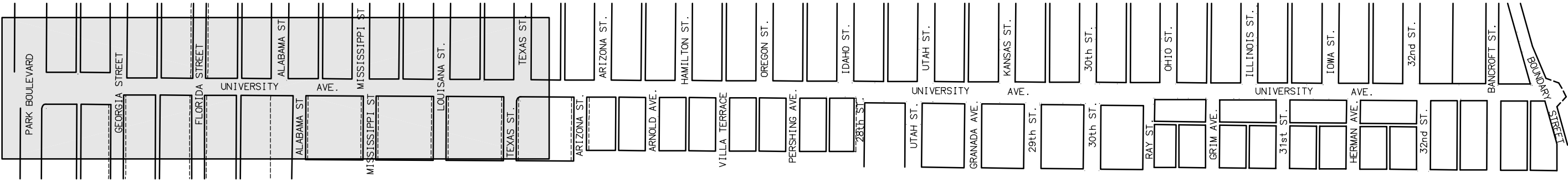
Based on the VISSIM and HCM operational analysis of the corridor, City of San Diego Transportation Planning staff support the selection of Alternative 5a. This alternative maximizes the capacity of University Avenue west of Utah Street for mixed flow traffic and provides the transit only lanes through the most dense core of the corridor where there are available alternative parallel routes for traffic to divert.

This alternative includes:

❖ Installation of Enhanced Unsignalized Pedestrian Crossings across University Avenue at Herman Street, Kansas Street & Alabama Street.

❖ Installation of New Traffic Signals at Oregon Street and Arnold Avenue.

❖ Transit Signal Priority at all Signalized Intersections[1].

❖ Removal of traffic signal at Ohio Street to reduce delays. Installation of Enhanced Pedestrian crossing at Ohio Street in place of traffic signal.

❖ Construction of raised median from Boundary Street to Park Boulevard to separate opposing traffic flow, limit the number of intersections with left turn access and help channelize left turning traffic out of the through lanes.

❖ Eastbound Transit Only Lane from Utah Street to Boundary Street. Peak hour only operations (7-9 a.m. and 4-6 p.m.) in the business core (Idaho Street to Iowa Street). Parking permitted in the Transit Only Lane during off-peak hours in the business core .

Exhibit 7-1

---

[1] Analysis of the alternatives included in the installation of Transit Signal Priority at all intersections. The purposed of this analysis was to determine which intersections benefited most from Transit Signal Priority.

Chapter 7 – Alternatives Analysis

KEY MAP
SCALE: 1"=500'

LEGEND

PEDESTRIAN IMPROVEMENTS

SYMBOL	DESCRIPTION
	RESTRIPE EXISTING CROSSWALK OR NEW CROSSWALK
	MODIFIED EXISTING CROSSWALK
	NEW ENHANCED SIDE STREET CROSSING
	NEW ENHANCED UNSIGNALIZED CROSSWALK
	REMOVE CROSSWALK

TRANSIT IMPROVEMENTS

SYMBOL	DESCRIPTION
	TRANSIT STOP
	TRANSIT ONLY LANE
	POTENTIAL TRANSIT ONLY LANE (ALT. 3)

STREET IMPROVEMENTS

SYMBOL	DESCRIPTION
	PROPOSED CURB
	EXISTING CURB
	NEW "STOP" SIGN
	NEW "TRANSIT ONLY LANE AHEAD MERGE LEFT" SIGN
	NEW "RIGHT TURN ONLY LANE BUSES EXEMPT" SIGN
	RAISED MEDIAN WITH LANDSCAPE
	REPAINT EXISTING STOP BAR & SYMBOL
	STRIPE RIGHT TURN ARROW

SIGNAL IMPROVEMENTS

SYMBOL	DESCRIPTION
	STRIPE LEFT TURN ARROW & INSTALL NEW PROTECTED LEFT TURN ARROW
	NEW TRAFFIC SIGNAL
	REMOVE EXISTING TRAFFIC SIGNAL

Not to Scale

REFINED CONCEPT PLAN

KEY MAP
SCALE: 1"=500'

LEGEND

PEDESTRIAN IMPROVEMENTS

SYMBOL	DESCRIPTION
	RESTRIPE EXISTING CROSSWALK OR NEW CROSSWALK
	MODIFIED EXISTING CROSSWALK
	NEW ENHANCED SIDE STREET CROSSING
	NEW ENHANCED UNSIGNALIZED CROSSWALK
	REMOVE CROSSWALK

TRANSIT IMPROVEMENTS

SYMBOL	DESCRIPTION
	TRANSIT STOP
	TRANSIT ONLY LANE
	POTENTIAL TRANSIT ONLY LANE (ALT. 3)

STREET IMPROVEMENTS

SYMBOL	DESCRIPTION
	PROPOSED CURB
	EXISTING CURB
	NEW "STOP" SIGN
	NEW "TRANSIT ONLY LANE AHEAD MERGE LEFT" SIGN
	NEW "RIGHT TURN ONLY LANE BUSES EXEMPT" SIGN
	RAISED MEDIAN WITH LANDSCAPE
	REPAINT EXISTING STOP BAR & SYMBOL
	STRIPE RIGHT TURN ARROW

SIGNAL IMPROVEMENTS

SYMBOL	DESCRIPTION
	STRIPE LEFT TURN ARROW & INSTALL NEW PROTECTED LEFT TURN ARROW
	NEW TRAFFIC SIGNAL
	REMOVE EXISTING TRAFFIC SIGNAL

Not to Scale

REFINED CONCEPT PLAN

EXHIBIT 7-1
SHEET 2 OF 3

KEY MAP
SCALE: 1"=500'

LEGEND

PEDESTRIAN IMPROVEMENTS

SYMBOL	DESCRIPTION
	RESTRIPE EXISTING CROSSWALK OR NEW CROSSWALK
	MODIFIED EXISTING CROSSWALK
	NEW ENHANCED SIDE STREET CROSSING
	NEW ENHANCED UNSIGNALIZED CROSSWALK
	REMOVE CROSSWALK

TRANSIT IMPROVEMENTS

SYMBOL	DESCRIPTION
	TRANSIT STOP
	TRANSIT ONLY LANE
	POTENTIAL TRANSIT ONLY LANE (ALT. 3)

STREET IMPROVEMENTS

SYMBOL	DESCRIPTION
	PROPOSED CURB
	EXISTING CURB
	NEW "STOP" SIGN
	NEW "TRANSIT ONLY LANE AHEAD MERGE LEFT" SIGN
	NEW "RIGHT TURN ONLY LANE BUSES EXEMPT" SIGN
	RAISED MEDIAN WITH LANDSCAPE
	REPAINT EXISTING STOP BAR & SYMBOL
	STRIPE RIGHT TURN ARROW

SIGNAL IMPROVEMENTS

SYMBOL	DESCRIPTION
	STRIPE LEFT TURN ARROW & INSTALL NEW PROTECTED LEFT TURN ARROW
	NEW TRAFFIC SIGNAL
	REMOVE EXISTING TRAFFIC SIGNAL

Not to Scale

REFINED CONCEPT PLAN

❖ Westbound Transit Only Lane from Boundary Street to Florida Street. Peak hour only operations (7-9 a.m. and 4-6 p.m.) in the business core (Idaho Street to Iowa Street). Parking permitted in the Transit Only Lane during off-peak hours in the business core.

❖ Maintain on-street parallel parking spaces (68) between Idaho Street and Iowa Street in the off peak. These spaces can be used for loading and unloading products to the businesses for 20 of the 24 hours on a typical weekday.

❖ Increase parking on the side streets by converting the existing parallel parking to diagonal parking on all streets where this is feasible.

❖ Provide for traffic calming measures on side streets and streets parallel to University Avenue to help slow traffic such as bulb-outs, increased on street parking and appropriate traffic controls at parallel street intersections.

SANDAG/MTS and the Steering Committee support the selection of Alternative 3, which is physically consistent with Alternative 5a. However, instead of from Utah Street to Boundary Street Alternative 3a would extend the eastbound transit only lanes from Park Boulevard to Boundary Street (shown in orange in Exhibit 7-1). In SANDAG/MTS opinion, this alternative would maximize the efficiency of the transit service along University Avenue. A straw poll vote of the Steering Committee indicated that the group favored the sense of community and the traffic slowing effects that occur with the implementation of the extended transit only lane. SANDAG/MTS and the Steering Committee also support the removal of all on-street parking along University Avenue at all times in order to make the transit lane operational at all times.

7.1 Analysis Methodology

To evaluate the operations of the study corridor, a set of Measures of Effectiveness were established. The Measures of Effectiveness defined for this analysis include both travel time and intersection delay. Travel time for the corridor was recorded separately for the transit vehicles and the passenger vehicles. Using the VISSIM model, travel time data was collected for a sample of vehicles traveling from Boundary Street to Park Boulevard in the eastbound and in the westbound directions. A total of 10 model runs were conducted for each scenario in order to achieve a representative sample size to evaluate the data.

The second Measure of Effectiveness recorded for each alternative is intersection delay, which was broken down into three categories:

❖ total intersection delay
❖ concurrent delay
❖ conflicting delay

Chapter 7 – Alternatives Analysis

Concurrent delay refers to the delay experienced by vehicles along University Avenue (left turning, through and right turning) and conflicting delay refers to delay specific to vehicles the side streets (left turning, through and right turning). Delay was recorded for each movement at each of the signalized intersections along the study corridor.

7.2   Description of Alternatives

A total of nine alternatives were evaluated. As stated previously, the nine alternatives toggle one or more of the following key elements of the Preferred Concept Plan:

- ❖   Length of Transit Only Lane
- ❖   Traffic Control Method at Texas Street
- ❖   Alignment of Texas Street
- ❖   Traffic Control at Ohio Street
- ❖   Relocation of Parallel Parking Along University Avenue

Table 7-1 provides a matrix of these key elements included in each of the nine alternatives evaluated.

Table 7-1
Summary of Alternatives

Alternative:	Relocate Parking	Transit Lanes Boundary to…		Traffic Control at Texas Street	Traffic Control at Ohio Street
		EB	WB		
Preferred Concept Plan	No	Florida	Florida	Roundabout (1 lane)	Signal
Alt. 1	Yes	Florida	Florida	Signal	Signal
Alt. 2	Yes	Park	Florida	Signal	Signal
Alt. 3	Yes	Park	Florida	Signal	Median, No Signal
Alt. 4	Yes	Park	Florida	Realigned Signal	Signal
Alt. 5	Yes	Utah	Florida	Signal	Signal
Alt. 6	Yes	Utah	Florida	Roundabout (2 lane)	Signal
Alt 3a	Yes	Park	Florida	Realigned Signal	Median, No Signal
Alt 5a	Yes	Utah	Florida	Signal	Median, No Signal
Alt 5b	Yes	Utah	Florida	Realigned Signal	Median, No Signal

Chapter 7 – Alternatives Analysis

The results of the VISSIM analysis are summarized in Tables 7-2 through 7-5. Based on the operational analysis of the alternatives, Alternative 3 and Alternative 5a were identified as the operationally superior alternatives of the nine analyzed. The following section provides a detailed description of each of the alternatives, brief discussion of the operational benefits and constraints of each alternative and why each alternative was accepted or rejected.

- ❖ Table 7-2: Travel Time Summary
- ❖ Table 7-3: Intersection Delay Summary
- ❖ Table 7-4: Conflicting Delay Summary
- ❖ Table 7-5: Concurrent Delay Summary

A complete summary of all data reported for the VISSIM analysis is provide in the Appendix at the end of this report.

Alternative 1

Description: Alternative 1 was the starting point for all of the alternatives evaluated. It removed the constraints identified in the Preferred Concept Plan. First, the single lane roundabout at Texas Street was removed and the existing traffic signal operations were coded into the VISSIM model. Second, the on-street parallel parking that remained in the business core along University Avenue in the Preferred Concept Plan was removed from the model. A continuous transit only lane from Florida Street to Boundary Street both eastbound and westbound replaced this parking. The removed parking would be shifted to the nearest side street by converting the existing parallel parking to diagonal parking. Refer to Section 7.4 of this chapter for more details regarding the parking alternatives evaluated.

Why Rejected: The analysis of Alternative 1 revealed that further improvement to the overall system, specifically significant passenger vehicle travel time savings, could be achieved if the extents of the transit only lanes were modified.

Alternative 2

Description: Alternative 2 extended the eastbound transit only lane from Florida Street to Park Boulevard. The intent with this scenario would be to provide a direct connection to the from the Showcase project planned for Park Boulevard. Alternative 2 built upon the Alternative 1 network, which removed all parallel parking along University Avenue and removed the one-lane roundabout at Texas Street.

Why Rejected: Alternative 2 would provide benefit to transit vehicles only, compared to the Preferred Concept Plan. Reviewing the VISSIM simulation of this scenario, it was clear that further refinements within the core of University Avenue (Idaho Street to Iowa Street) needed to be made.

Chapter 7 – Alternatives Analysis

Table 7-2a

Travel Time Summary (Minutes) - A.M. Peak Hour

Intersection	Direction	Existing	2030 No Build	2030 Preferred Concept Plan	2030 Alt 1	2030 Alt 2	2030 Alt 3	2030 Alt 4	2030 Alt 5	2030 Alt 6	2030 Alt 3a	2030 Alt 5a	2030 Alt 5b
Passenger Vehicle	WB	5.9	6.5	14.3	5.5	5.5	5.6	5.5	5.5	5.4	5.5	5.5	5.5
	EB	5.6	7.1	7.4	7.8	7.8	8.2	7.7	8.0	7.6	8.2	8.1	7.7
Route 7	WB	9.5	10.4	13.6	9.2	9.2	9.3	9.5	9.2	9.1	9.3	9.0	9.1
	EB	7.6	8.8	8.4	8.1	8.1	7.9	7.8	8.0	7.4	8.0	8.1	8.0
Route 908	WB	8.1	8.8	13.0	7.9	7.9	8.2	7.8	7.8	7.5	7.9	8.0	7.8
	EB	7.4	8.3	7.8	7.2	7.2	7.1	7.0	7.4	7.1	7.1	7.3	7.3

Table 7-2b

Travel Time Summary (Minutes) - P.M. Peak Hour

Intersection	Direction	Existing	2030 No Build	2030 Preferred Concept Plan	2030 Alt 1	2030 Alt 2	2030 Alt 3	2030 Alt 4	2030 Alt 5	2030 Alt 6	2030 Alt 3a	2030 Alt 5a	2030 Alt 5b
Passenger Vehicle	WB	7.1	9.7	11.2	8.4	8.7	8.8	7.1	8.2	7.1	6.9	8.6	7.1
	EB	7.0	15.1	21.4	13.5	12.5	13.4	9.8	9.9	9.5	11.9	11.6	11.7
Route 7	WB	10.2	12.3	9.8	9.7	9.8	9.6	9.7	9.3	9.7	9.8	9.6	9.6
	EB	10.1	17.8	15.1	10.3	9.3	9.3	9.1	10.2	9.6	9.1	10.5	10.8
Route 908	WB	10.1	11.8	9.1	8.9	9.4	9.1	9.1	9.1	9.1	9.0	9.2	8.9
	EB	10.9	17.9	16.7	10.5	9.3	9.5	8.5	10.1	9.8	8.4	10.4	10.7

Chapter 7 – Alternatives Analysis

Table 7-3a

Total Intersection Delay (Seconds)

A.M. Peak Hour

Intersection	Existing	2030 No Build	2030 Preferred Concept Plan	2030 Alt 1	2030 Alt 2	2030 Alt 3	2030 Alt 4	2030 Alt 5	2030 Alt 6	2030 Alt 3a	2030 Alt 5a	2030 Alt 5b
Park	28.5	33.0	33.7	35.8	35.8	34.7	35.1	34.4	35.9	36.1	34.5	34.6
Florida	10.4	15.0	18.0	18.0	18.0	17.1	18.6	16.9	17.6	18.2	19.5	18.8
Mississippi	6.6	9.2	13.5	10.6	10.6	10.8	12.1	11.3	14.5	11.9	11.4	12.3
Texas	20.7	28.4	31.9	39.8	39.8	40.4	26.2	40.4	7.7	26.4	40.0	26.5
Arnold	0.0	0.0	46.7	7.5	7.5	8.0	6.5	6.9	5.6	6.1	7.5	6.5
Oregon	0.0	0.0	36.1	3.8	3.8	4.0	3.8	3.9	3.4	3.8	3.9	3.7
Utah	14.0	16.5	95.2	24.8	24.8	24.5	24.2	24.7	23.7	23.9	24.4	24.3
30th	15.2	19.9	57.9	25.9	25.9	27.3	25.6	26.2	26.2	26.9	26.5	26.8
Ohio	3.3	4.9	27.2	6.1	6.1	1.0*	6.1	6.6	6.6	0.2*	0.2*	0.2*
Grim	3.0	5.0	12.7	5.3	5.3	6.2	5.0	6.2	5.6	6.8	6.1	5.4
Illinois	5.0	5.5	30.5	5.3	5.3	7.9	5.5	6.1	5.8	8.6	8.5	7.4
32nd	15.0	28.2	53.4	38.3	38.3	40.4	39.3	40.7	36.5	44.7	40.5	40.0
Boundary	15.4	55.7	66.9	37.6	37.6	36.4	35.2	35.5	37.7	35.9	36.7	36.4
Wabash	25.0	37.2	53.0	34.9	34.9	35.6	35.7	35.7	35.6	35.2	35.5	35.6

(*) = Intersection unsignalized under this alternative.

7-10

Table 7-3b
Total Intersection Delay (Seconds)
P.M. Peak Hour

Intersection	Existing	2030 No Build	2030 Preferred Concept Plan	2030 Alt 1	2030 Alt 2	2030 Alt 3	2030 Alt 4	2030 Alt 5	2030 Alt 6	2030 Alt 3a	2030 Alt 5a	2030 Alt 5b
Park	41.4	113.5	144.0	74.6	91.2	92.2	58.5	46.8	46.0	65.7	47.4	47.5
Florida	17.6	93.6	153.3	87.1	65.2	64.0	41.3	41.0	40.0	48.5	40.1	39.4
Mississippi	11.5	68.9	56.8	57.1	66.5	64.0	23.2	19.3	20.0	32.1	18.8	18.9
Texas	35.4	77.1	72.3	79.3	83.5	85.4	37.4	67.2	15.6	45.3	68.9	37.5
Arnold	0.0	0.0	37.2	15.5	17.9	23.6	6.9	10.3	3.7	14.2	18.5	13.6
Oregon	0.0	0.0	28.1	11.8	13.4	17.3	9.3	8.3	4.9	19.5	17.0	19.7
Utah	26.5	43.1	102.1	47.3	44.2	47.4	43.8	54.3	43.1	49.7	58.8	69.0
30th	25.6	47.7	53.1	57.5	57.7	63.1	57.0	61.5	58.6	63.4	67.3	68.1
Ohio	12.8	21.0	17.7	21.5	20.6	2.7*	19.9	22.2	20.1	1.5*	1.2*	1.3*
Grim	6.4	6.1	8.5	8.7	8.8	8.4	7.2	8.8	7.5	8.4	8.8	10.6
Illinois	8.6	12.1	9.2	8.2	8.1	12.0	7.4	8.3	7.6	12.5	12.4	13.6
32nd	18.1	35.8	35.9	28.6	30.3	31.3	27.9	30.6	29.3	34.1	34.4	37.7
Boundary	21.6	55.6	52.2	62.6	59.6	65.9	66.2	61.4	67.2	64.6	65.7	63.6
Wabash	45.7	35.6	26.5	35.1	30.8	33.9	36.6	30.5	40.1	33.3	34.3	34.0

(*) = Intersection unsignalized under this alternative.

Chapter 7 – Alternatives Analysis

Table 7-4a
Conflicting Intersection Delay (Seconds)
A.M. Peak Hour

Intersection	Existing	2030 No Build	2030 Preferred Concept Plan	2030 Alt 1	2030 Alt 2	2030 Alt 3	2030 Alt 4	2030 Alt 5	2030 Alt 6	2030 Alt 3a	2030 Alt 5a	2030 Alt 5b
Park	30.6	33.8	38.6	40.1	40.1	40.8	40.9	40.0	40.5	40.5	40.3	40.2
Florida	16.7	27.8	70.2	76.0	76.0	71.2	77.3	70.9	71.8	74.8	84.3	79.4
Mississippi	24.0	27.5	48.7	48.7	48.7	49.1	49.0	49.3	49.1	49.4	49.4	48.7
Texas	27.0	33.6	21.3	62.8	62.8	63.4	44.6	66.3	9.7	44.1	63.9	44.9
Arnold	6.8	7.3	44.9	39.6	39.6	39.9	41.1	37.5	38.9	38.5	39.7	38.9
Oregon	9.1	11.5	37.8	35.5	35.5	38.7	37.3	38.7	39.3	38.7	39.4	37.4
Utah	22.1	26.3	122.9	46.4	46.4	46.6	46.4	45.9	46.7	46.3	46.2	46.1
30th	20.2	29.4	59.2	44.5	44.5	44.6	44.5	44.9	46.0	46.4	45.0	44.8
Ohio	5.5	5.6	59.7	43.2	43.2	12.6*	43.2	46.2	46.3	11.7*	12.2*	11.9*
Grim	19.2	27.2	49.8	42.9	42.9	43.5	40.5	41.3	43.6	43.2	40.7	39.8
Illinois	17.8	26.6	59.4	36.6	36.6	49.8	41.1	40.7	40.1	53.0	53.3	47.7
32nd	17.3	24.9	66.6	52.0	52.0	57.7	53.3	56.9	53.1	58.2	53.2	53.0
Boundary	16.7	45.6	72.8	55.9	55.9	53.4	51.1	52.6	58.3	52.3	53.4	54.6
Wabash	26.9	42.4	55.8	37.6	37.6	39.4	38.8	38.9	39.3	38.8	39.2	38.9

(*) = Intersection unsignalized under this alternative.

Chapter 7 – Alternatives Analysis

Table 7-4b

Conflicting Intersection Delay (Seconds)

P.M. Peak Hour

Intersection	Existing	2030 No Build	2030 Preferred Concept Plan	2030 Alt 1	2030 Alt 2	2030 Alt 3	2030 Alt 4	2030 Alt 5	2030 Alt 6	2030 Alt 3a	2030 Alt 5a	2030 Alt 5b
Park	38.7	115.6	126.1	81.0	87.1	87.9	54.9	51.0	50.1	63.4	51.4	52.4
Florida	35.1	106.1	138.6	112.2	109.6	103.4	94.0	107.2	101.4	101.9	104.4	103.0
Mississippi	28.3	57.1	53.1	178.3	223.4	205.2	74.0	59.0	61.1	106.6	57.7	59.6
Texas	41.7	76.6	67.7	89.0	94.4	94.1	46.2	89.2	18.5	55.4	89.0	44.4
Arnold	7.0	39.1	24.3	37.4	39.5	50.8	29.5	32.5	23.7	40.6	34.5	30.3
Oregon	11.8	33.2	29.5	40.8	46.9	62.2	39.9	31.5	30.0	93.9	59.4	41.4
Utah	37.2	53.2	244.5	51.0	44.8	47.4	44.6	45.9	46.0	46.1	49.8	48.8
30th	31.0	65.0	84.4	81.1	79.7	80.9	79.8	81.7	80.3	80.2	84.9	83.9
Ohio	5.3	10.1	49.1	56.4	52.7	12.2*	51.8	58.0	52.6	13.3*	11.9*	11.9*
Grim	25.7	51.8	52.4	54.4	58.5	55.0	49.9	56.5	52.0	52.4	55.1	61.1
Illinois	25.5	43.7	23.5	36.4	36.1	43.5	34.6	36.6	35.9	43.2	43.3	44.3
32nd	20.1	29.6	39.9	33.4	33.2	33.1	32.9	33.1	31.9	34.1	34.0	34.9
Boundary	29.5	49.7	64.4	48.5	47.6	50.9	45.9	51.3	46.8	46.8	46.6	47.4
Wabash	28.6	40.3	27.7	40.1	33.4	40.0	43.6	33.3	48.0	37.7	37.6	38.9

(*) = Intersection unsignalized under this alternative.

Table 7-5a

Concurrent Intersection Delay (Seconds)

A.M. Peak Hour

Intersection	Existing	2030 No Build	2030 Preferred Concept Plan	2030 Alt 1	2030 Alt 2	2030 Alt 3	2030 Alt 4	2030 Alt 5	2030 Alt 6	2030 Alt 3a	2030 Alt 5a	2030 Alt 5b
Park	27.1	32.5	29.5	32.3	32.3	29.8	30.4	29.7	32.1	32.4	29.8	30.1
Florida	9.2	12.0	4.4	4.0	4.0	4.0	4.3	3.6	4.6	4.4	3.7	4.0
Mississippi	4.3	7.1	6.5	3.5	3.5	3.7	5.2	4.2	8.1	4.8	4.3	5.5
Texas	18.5	26.3	36.7	30.3	30.3	30.8	18.5	29.6	6.9	19.0	30.1	18.7
Arnold	0.0	0.0	47.0	4.0	4.0	4.5	2.8	3.7	2.0	2.7	4.0	3.0
Oregon	0.0	0.0	36.0	3.3	3.3	3.5	3.3	3.4	2.9	3.3	3.4	3.2
Utah	12.4	14.6	86.4	18.5	18.5	17.9	17.7	18.4	16.9	17.4	17.9	17.7
30th	12.5	15.6	56.9	14.8	14.8	16.1	14.3	15.0	14.5	14.5	14.8	15.4
Ohio	0.8	1.7	20.6	0.0	0.0	0.9*	0.0	0.0	0.1	0.0*	0.0*	0.0*
Grim	1.7	3.4	9.0	1.8	1.8	2.6	1.7	3.0	2.1	3.4	2.9	2.1
Illinois	4.3	4.5	28.7	3.4	3.4	4.2	3.4	4.0	3.6	4.7	4.6	3.8
32nd	14.2	29.0	47.6	32.7	32.7	33.4	33.5	34.1	29.6	39.2	35.3	34.8
Boundary	15.3	57.6	64.3	30.2	30.2	29.6	28.9	28.7	29.4	29.5	30.0	29.2
Wabash	23.7	33.5	50.6	32.8	32.8	32.6	33.2	33.1	32.7	32.2	32.6	33.0

(*) = Intersection unsignalized under this alternative.

Table 7-5b

Concurrent Intersection Delay (Seconds)

P.M. Peak Hour

Intersection	Existing	2030 No Build	2030 Preferred Concept Plan	2030 Alt 1	2030 Alt 2	2030 Alt 3	2030 Alt 4	2030 Alt 5	2030 Alt 6	2030 Alt 3a	2030 Alt 5a	2030 Alt 5b
Park	43.7	111.4	166.7	66.9	96.3	97.6	62.6	41.9	41.2	68.5	42.6	41.9
Florida	13.2	89.1	160.9	75.8	44.5	45.2	18.3	12.2	13.5	25.3	12.1	12.3
Mississippi	9.6	70.8	58.0	28.1	28.2	29.2	10.4	9.3	9.8	14.0	9.1	8.7
Texas	33.2	77.3	75.2	74.2	77.7	80.6	32.8	55.4	14.1	40.0	58.2	33.7
Arnold	0.0	0.0	38.4	13.9	16.2	21.5	5.2	8.6	2.3	12.1	17.3	12.3
Oregon	0.0	0.0	28.0	10.0	11.2	14.4	7.5	6.8	3.4	15.0	14.3	18.4
Utah	24.4	40.9	46.2	45.5	44.0	47.3	43.5	58.4	41.8	51.5	63.2	78.8
30th	22.3	36.9	25.3	36.5	37.4	43.6	35.8	42.6	38.7	45.3	48.3	50.6
Ohio	6.7	3.9	5.0	7.8	8.2	2.3*	7.5	8.1	7.3	0.2*	0.1*	0.1*
Grim	5.1	3.3	4.4	4.3	4.2	3.9	3.3	4.4	3.4	4.2	4.3	5.6
Illinois	7.3	9.9	6.7	5.1	5.1	6.3	4.6	5.3	4.6	6.9	6.8	7.9
32nd	17.7	37.0	34.5	26.7	29.2	30.6	26.0	29.8	28.3	34.0	34.6	38.7
Boundary	19.6	56.9	46.3	69.8	65.7	73.6	76.5	66.5	77.4	73.6	75.4	71.8
Wabash	54.7	33.3	25.4	30.3	28.3	28.2	29.9	27.7	32.7	29.0	31.2	29.2

(*) = Intersection unsignalized under this alternative.

7-15

Alternative 3

Description: Building upon the network for Alternative 2, Alternative 3 removed the traffic signal at Ohio Street, and replaced it with an enhanced unsignalized pedestrian crossing. Otherwise, east of 30th Street, left turns would be allowed at three consecutive intersections: 30th Street, Ohio Street and Illinois Street. The distance between 30th Street and Illinois Street is approximately 650 feet. With closely spaced intersections with turning movements, it can be difficult to maintain coordination, and prevent queues into adjacent intersections. Reviewing the VISSIM simulation runs and reviewing existing signal timing information for the corridor, it was determined that both passenger vehicles and transit vehicles would benefit from a reduction in traffic signals through this section. Therefore, Alternative 3 evaluated the operating conditions with the following:

- ❖ No Parallel Parking on University Avenue
- ❖ Continuous Eastbound Transit Only Lanes from Park Boulevard to Boundary Street
- ❖ Continuous Westbound Transit Only Lanes from Boundary Street to Florida Street
- ❖ Traffic Signal Removed at Ohio Street

Why Selected: Alternative 3 was identified as one of the top two operationally superior alternatives in this analysis. Overall transit travel time improves significantly over the Preferred Concept Plan. It allows for a continuous dedicated transit only lane from Park Boulevard to Boundary Street, which would also encourage bicycle traffic to re-enter University Avenue. The downsides to this alternative are the additional delay for passenger vehicles and lack of parallel routes for diverted traffic along some of the corridor.

Alternative 3a

Description: Alternative 3a evaluated the potential benefit of realigning Texas Street, in addition to the other modifications to the Preferred Concept Plan included in Alternative 3. Texas Street is currently an offset intersection. The north leg of the intersection is approximately 60 feet east of the south leg. This requires that the intersection operate with split phasing and an "all pedestrian" phase. These two elements result in the need for very long cycle lengths. As such Texas Street is not currently coordinated with the other signals along the corridor. Alternative 3a eliminates the split phasing and all pedestrian phase by aligning the north and south legs of the intersection, and coordinates Texas Street with the other signals along University Avenue.

Why Rejected: The realignment of Texas Street would require significant right-of-way acquisition and would impact single family homes, multi-family developments and businesses along both University Avenue and Texas Street. The impact of realigning Texas Street was not justified by the minimal

improvement in delay and in travel time along the corridor that it would provide. Therefore, the realignment of Texas Street is not recommended.

Alternative 4

Description: In addition to removing the parking along University Avenue, Alternative 4 evaluated the potential improvement to corridor operations with the realignment of Texas Street described in Alternative 3A. Alternative 4 does not include the removal of the traffic signal at Ohio Street.

Why Rejected: Similar to Alternative 3a, Alternative 4 was rejected because of the cost, impacts, and minimal benefit associated with the realignment of Texas Street.

Alternative 5

Description: Alternatives 1 through 4 evaluated extending the eastbound transit only lane to Park Boulevard. Alternative 5 evaluates the operations of the corridor with the eastbound transit only lane beginning at Utah Street. Utah Street was selected as the eastbound starting point for the transit only lane for two reasons:

❖ At Utah Street, two parallel alternative routes to University Avenue are available: Lincoln Avenue and North Park Way. This is the first point along the corridor where one contiguous route is provided on the north and one contiguous route is provided on the south. This would allow for sufficient capacity to meet the projected diverted traffic due to the constrained capacity along University Avenue.

❖ By providing two eastbound mixed flow lanes through Texas Street, a two-lane roundabout would be possible (refer to Alternative 6). Based on the operational analysis, a two-lane roundabout would operate as well as a signalized intersection.

Alternative 5 modified the Preferred Concept Plan by:

❖ Removing all parallel parking along University Avenue
❖ Removing the one-lane roundabout; maintaining the traffic signal at Texas Street
❖ Providing the Eastbound transit only lane from Utah Street to Boundary Street

The results of the analysis of Alternative 5 indicated that providing the transit only lane from Utah Street to Boundary Street improved traffic signal operations west of Utah Street. Traffic travel times significantly improved over the forecast travel times with the Preferred Concept Plan. Because of the

Chapter 7 – Alternatives Analysis

available parallel routes at Utah Street, queues would not impact side streets and/or signalized intersections west of Utah Street as they would west of Florida Street with the Preferred Concept Plan.

Why Rejected: Although Alternative 5 provided improved operating conditions over the Preferred Concept Plan, it was determined that further improvement to the overall system could be achieved if additional modifications were integrated into the Alternative 5 scenario (See Alternative 5a).

Alternative 5a

Description: In addition to the modifications included in Alternative 5, Alternative 5a evaluated the potential operational improvements associated with removing the traffic signal at Ohio Street.

Why Selected: Alternative 5a was identified as one of two operationally superior alternatives. Balancing travel time, delay and impacts to side streets, Alternative 5a provides the most efficient operations for passenger vehicles. As shown previously in Table 7-2, Alternative 5a would provide the most efficient travel time. Bicycles would be required to share the travel lane EB with transit and passenger vehicles west of Utah Street. Alternative 5a limits the bicycle access to the corridor.

Alternative 5b

Description: In addition to the modifications evaluated in Alternative 5a, Alternative 5b evaluated the potential operational improvements associated with realigning Texas Street.

Why Rejected: As described previously, the realignment of Texas Street requires significant right-of-way, impacting both University Avenue and Texas Street. By realigning Texas Street and shortening the transit only lane to begin at Utah Street, traffic operations would decline from Utah Street to the east. As an offset intersection with a high cycle length, Texas Street serves as a metering point for the constrained traffic operations along the eastern portion of the corridor. Realigning Texas Street, and coordinating signal operations along the corridor pushes too much traffic too quickly through the corridor resulting in poor operations further east. Therefore, this alternative was rejected due to the impact to the right-of-way, cost, and lack of operational benefits.

Alternative 6

Description: Alternative 6 is the only alternative that analyzed the operations of the corridor with a two-lane roundabout at Texas Street. In this scenario, the eastbound transit only lane begins at Utah Street, because it is necessary to have two lanes feeding into the two-lane roundabout in order for it to be functional. In this analysis, the Ohio Street traffic signal is maintained.

Chapter 7 – Alternatives Analysis

Why Rejected: The two lane roundabout would operate at acceptable levels of service, if the eastbound transit only lane began at Utah Street. However, the two-lane roundabout would require significant right of way that would impact all four corners of the intersection of Texas Street/University Avenue. Access to the businesses on all four corners of the intersection would be closed to accommodate the necessary right-of-way for a two-lane roundabout. Although the analysis does not preclude the implementation of a roundabout at Texas Street, it is not recommended due to the right-of-way impacts and cost to construct.

7.3   Recommended Refined Concept Plan

Two alternatives were identified as the operationally superior alternatives: Alternative 3 and Alternative 5a. Both alternatives are physically the same. In order to provide two lanes in each direction and a landscaped raised median throughout the corridor, all on-street parallel parking through this corridor would be relocated to the side streets. Diagonal parking on University Avenue would not be removed.

In the eastbound direction, Alternative 3 would provide a transit only lane from Park Boulevard to Boundary Street. Alternative 5a would provide an eastbound transit only lane from Utah Street to Boundary Street. Both Alternative 3 and Alternative 5a would provide for a westbound transit only lane from Florida Street to Boundary Street.

In comparing Alternative 5a to Alternative 3, it became clear that from an operational perspective the extension of the eastbound transit only lane to Park Avenue would not result in overall improved operations for transit vehicles. However, Alternative 3 results in much higher travel times for passenger vehicles due to the constrained capacity from Park Boulevard to Utah Street. Comparing the total intersection delay time, Alternative 5a is forecast to have lower intersection delay when compared to Alternative 3 for intersections located west of Utah Street.

Based on the operational analysis of the corridor, Alternative 5a is the recommended Refined Concept Plan, illustrated in Exhibit 7-1. It provides for efficient passenger vehicle mobility and transit vehicle mobility. At Utah Street, passenger vehicles are provided parallel routes to University Avenue: Lincoln Avenue to the north and North Park Way to the south. Because of the parallel routes, this section of University Avenue has the greatest amount of through capacity to meet the forecast travel demands.

Although not recommended, a two-lane roundabout could be constructed at Texas Street as a future modification to Alternative 5a. It was determined that the roundabout would not significantly improve travel conditions for the corridor. Based on this fact and due to the right-of-way needs of the roundabout and the overall impacts to the existing businesses and community surrounding the roundabout, it is not recommended as part of this plan.

Chapter 7 – Alternatives Analysis

As stated previously, there are no physical or geometric differences between Alternative 3 and Alternative 5a. Therefore, if it is determined in the future that major transit travel time benefits could be achieved by extending the eastbound transit only lane to Park Boulevard, and the operational impacts to traffic could be mitigated, the transit only lanes could be extended to Park Boulevard as a future phase of the project.

Maintaining the parallel parking and constraining the capacity to two lanes (one in each direction) along University Avenue through the core of the community would result in significant delays to both passenger vehicles and transit vehicles as illustrated in the analysis of the Preferred Concept Plan. The weaving that occurs at every block due to merging of transit vehicles from bus stops and merging of passanger vehicles into right turn lanes, and the queues that develop as a result of the constrained capacity would make accessing University Avenue difficult at best. Therefore, all of the alternatives would shift the parking along University Avenue to the side streets. This recommendation for shifting the parking involved an analysis of several parking alternatives that are summarized in the following section.

7.4 Parking Relocation Alternatives

A total of 68 parallel on-street parking spaces would be provided between Idaho Street and Iowa Street along University Avenue with the implementation of the Preferred Concept Plan. A total of 47 parallel on-street parking spaces would be located on the north side of University Avenue and 21 on the south side of University Avenue.

Currently, 30 diagonal parking spaces are provided on the south side of University Avenue between 28th Street and 30th Street. Because of the consolidation of the transit stops, the Preferred Concept Plan would increase the total diagonal parking from 30 spaces to 43 between 28th Street and 30th Street. The Refined Concept Plan (Alternative 5a) maintains all diagonal parking spaces included in the Preferred Concept Plan, with the exception of five proposed diagonal parking spaces that would block the existing driveway access to Kentucky Fried Chicken.

Five parking alternatives were identified to address the relocation of the on-street parallel parking between Idaho Street and Iowa Street:

- ❖ Alternative A - Shift Parking to Side Streets and Provide Corner Loading Zones on side streets
- ❖ Alternative B - Maintain On-Street Parking during Off Peak Periods
- ❖ Alternative C - Alternate Parking on North and South Side of University Avenue
- ❖ Alternative D - Provide Parallel Parking on North Side of University Avenue Only
- ❖ Alternative E - Maintain Preferred Concept Plan Parking

Chapter 7 – Alternatives Analysis

Each of the parking alternatives was reviewed to determine the operational impacts, enforcement concerns and overall equality to the businesses along University Avenue as summarized below:

Parking Alternative A: Shift Parking to Side Streets and Provide Corner Loading Zones.
Each of the blocks through the impacted section of University Avenue is approximately 300 feet long. Each block has an alley that divides the blocks into two 150 foot blocks. All businesses on the north side of University Avenue and some on the south side of University Avenue are confined to front access only. Rear access is not provided. Therefore, existing businesses use University Avenue to load and unload their products.

Alternative A would relocate all University Avenue parallel parking to the side streets. Loading zones would be provided at the corners on each side street, resulting in some loss of parking on the side streets. All loading zones would therefore be located within 150 feet of the businesses fronting University Avenue.

Many of the side streets intersecting University Avenue within the impacted section have sufficient cross-sectional widths (52 to 54 feet) to convert the existing parallel parking to diagonal parking, which would, result in an overall increase in parking on the side streets. However, the change in parking design from parallel to diagonal would require the support of the residents and the businesses fronting those side streets. It is recommended that the parking located closest to University Avenue be restricted parking (2 hours or less) during business hours to ensure that the businesses benefit from these additional side street parking spaces.

This alternative would provide for the maximum capacity for transit and passenger vehicles through the study corridor.

Parking Alternative B: Maintain On-Street Parallel Parking During Off-Peak Periods.
Alternative B would prohibit parallel parking along University Avenue during the highest traffic volume times of the day (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.). This alternative would continue to improve the side street parking by converting parallel on-street parking to diagonal parking on as many side streets as possible. However, businesses would maintain their store-front access for loading and unloading for 20 of 24 hours in the day.

This alternative meets the peak hour transit and traffic needs along the corridor and minimizes the impacts to the businesses that are constrained by front access only conditions.

Parking Alternative C: Alternate Parking between North and South Side of University Avenue.
A parking plan was evaluated that would alternate the on-street parallel parking between the north and south sides of University Avenue. In doing so, loading zones would be provided approximately once per

block on either the north or south side of the street. This design would have preserved approximately 20 on-street parallel parking spaces along the corridor and two travel lanes in each direction. However, the median would have to be reduced to approximately four feet or less through most of the constrained portion of the corridor (Idaho Street to Iowa Street).

Although some on-street parking would be maintained with this alternative, it was rejected due to the loss of the landscaped median, operational concerns with multiple transitions for traffic along University Avenue, and the minor retention of parking and loading areas along University Avenue.   Although loading and parking would be provided on University Avenue, many of the businesses along the corridor may find that the side streets provide for closer access.

Parking Alternative D: Provide Parallel Parking on North Side of University Avenue Only.
A total of 21 parking spaces are provided on the south side of University Avenue. Most businesses on the south side of University Avenue also benefit from parking lots behind their buildings or rear-access from alleys or drive isles. Therefore, a parking plan was designed to provide for parking on the north side of University Avenue only. Since the critical movement for the corridor (movement with the highest delay) the eastbound, the westbound traffic could operate at a reasonable flow in a single lane. Therefore, the raised median could be maintained, and two travel lanes eastbound and one travel lane westbound would be provided.

By maintaining parking on the north side of the street, westbound transit travel times are forecast to be approximately 14 minutes. Without the on-street parking the forecast transit travel time is approximately 9 minutes. Westbound traffic travel time would increase from 6 to 14 minutes in the a.m. peak hour if parking were permitted along University Avenue. Due to the impacts on travel time, this alternative was rejected. It also results in an unfair balance of impacts on the businesses on the north and south sides of the streets.

Parking Alternative E: Maintain Preferred Concept Plan Parking.
The Preferred Concept Plan would provide for a total of 68 on-street parallel parking spaces from Idaho Street to Iowa Street. However, this parking alternative was rejected due to the lengthy queues and traffic impacts associated with providing a single lane of traffic both eastbound and westbound along the corridor. If the Preferred Concept Plan parking were to be maintained, travel times along the corridor for transit vehicles are forecast to exceed 16 minutes and passenger vehicle travel times would exceed 21 minutes.

Parking Alternatives Summary
Parking Alternative B would provide more parking for the corridor by allowing on-street parking during the off-peak periods of the day, and would increase the side street parking by converting the existing parallel parking on the side streets to diagonal parking at all feasible locations. However, Parking

Alternative A, which would relocate all on-street parallel parking from University Avenue to the side streets is the operationally preferred alternative for both passenger vehicles and transit vehicles.

It is recommended that to meet the immediate need of the businesses on the corridor, Parking Alternative B be implemented. As businesses evolve along the corridor, it is recommended that Parking Alternative B, that allows for peak hour parking, be transitioned to Parking Alternative A, where parking is prohibited along University Avenue. North Park Main Street should continue its efforts to educate businesses, both new and old, of the plans for the corridor and encourage businesses that do not require heavy loading to locate on the north side of University Avenue where parking would be prohibited in the future.

Parking Alternative B is illustrated in Exhibit 7-2. All parking spaces illustrated in blue are restricted parking spaces that would eventually be removed from University Avenue as part of the long-range plan for the corridor.

7.5   Review of Refined Concept Plan

The two operationally superior alternatives, Alternative 3 and 5a, were presented to City of San Diego, SANDAG staff, and the Project Steering Committee, as well as to the community as a whole at the April 13 and May 6 public meetings. City of San Diego transportation planning staff preferred Alternative 5a. City staff is concerned about queues and delays imposed along University Avenue that may occur due to the reduction in travel lanes from four-lanes to two-lanes. City staff is also concerned that diversion of traffic to parallel routes will impact residential communities along North Park Way and Lincoln Avenue. Providing two eastbound mixed flow lanes from Park Boulevard to Utah Street would provide for maximum capacity along the corridor until parallel, alternative routes are available both north and south of University Avenue.

Transit planning and operations through the corridor are the responsibility of SANDAG and MTS, respectively. As such, SANDAG/MTS preferred Alternative 3, which would extend the transit only lanes from Park Boulevard to Boundary Street in the eastbound direction. This alternative would provide a direct linkage from the future Showcase project along Park Boulevard to the University Avenue corridor, following the alignment of Route 7.

The Steering Committee is a consortium of representatives from the business and residential community of North Park who met monthly to discuss the key elements of the University Avenue Mobility Plan. Many members of the Steering Committee for this project were also involved in the development of the Preferred Concept Plan during the University Avenue Traffic Calming Conceptual study, providing the team with key historical details. The overall concern of the Steering Committee is to maintain the character of the Preferred Concept Plan – slow traffic, provide for a pedestrian friendly environment, and create a sense of community along University Avenue. There was a concern that the Refined Concept

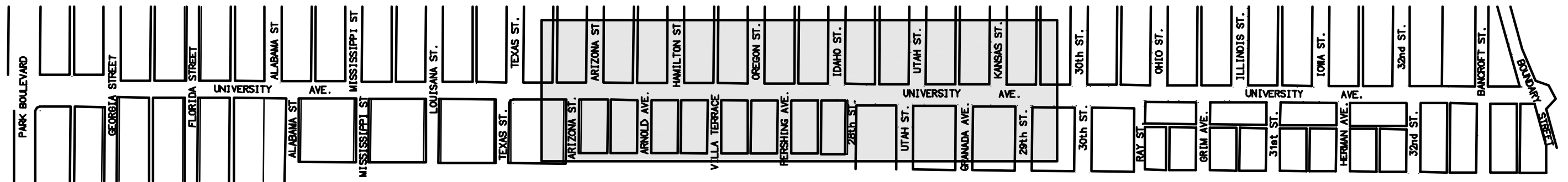**Chapter 7 – Alternatives Analysis**
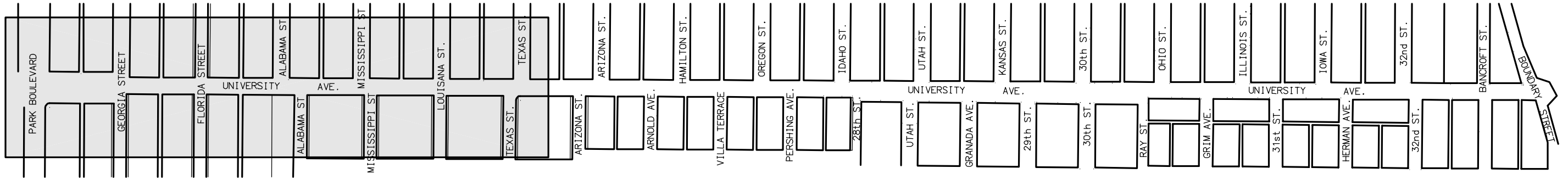
KEY MAP
SCALE: 1"=500'

LEGEND

EXISTING PARKING TO REMAIN (146)

EXISTING PARKING TO BE REMOVED (19)

NEW PARKING SPACE (6)

CONVERTED TO ANGLED PARKING (21)

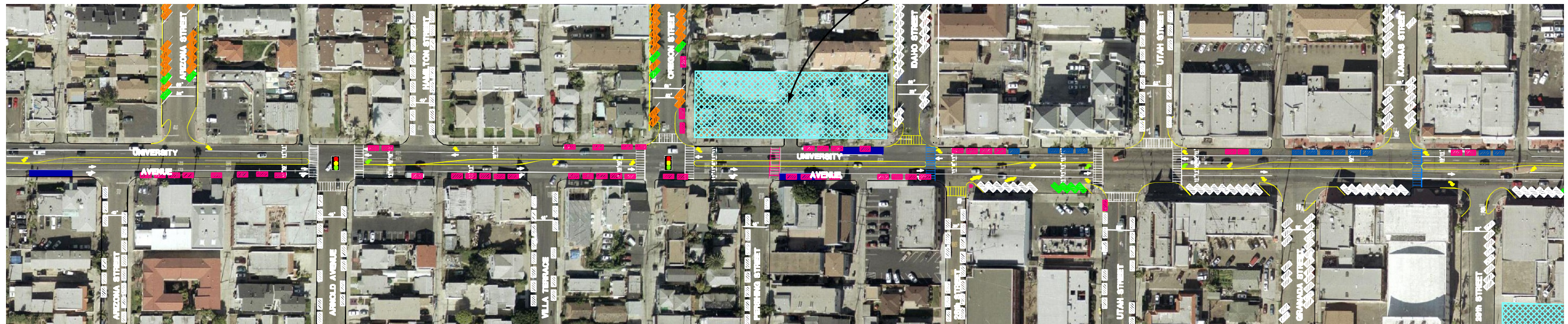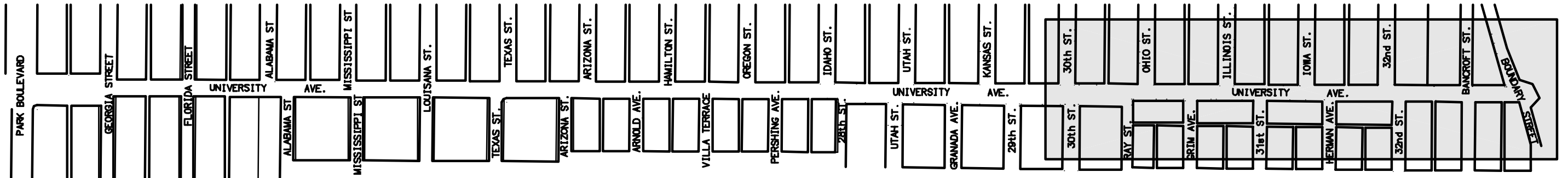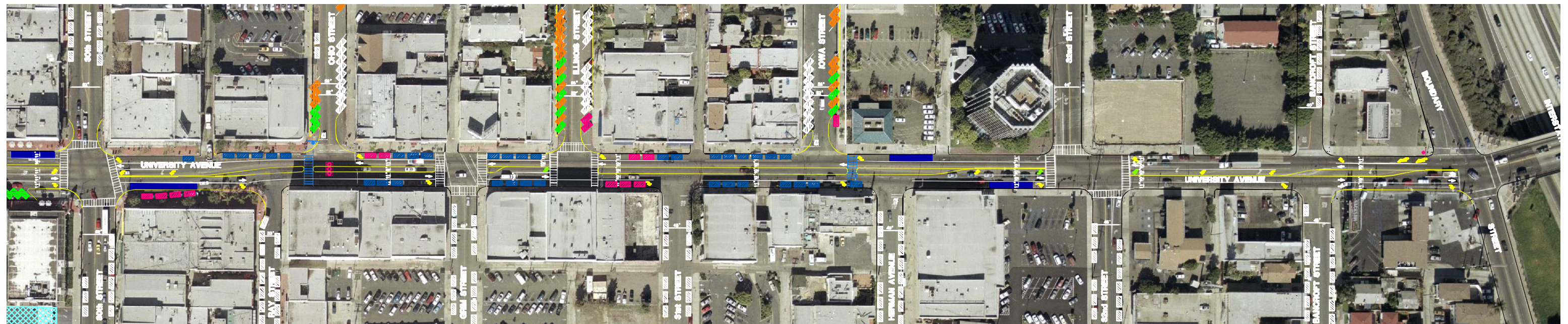RESTRICTED PARKING (NO PARKING 7–9 AM, 4–6 PM) (0)

BUS STOP

Not to Scale

RECOMMENDED PARKING PLAN

EXHIBIT 7-2
SHEET 1 OF 3

KEY MAP
SCALE: 1"=500'

PROPOSED LIBRARY SITE (PUBLIC PARKING) = 125 SPACES

332 SPACE PARKING STRUCTURE

LEGEND

EXISTING PARKING TO REMAIN (202)

EXISTING PARKING TO BE REMOVED (51)

NEW PARKING SPACE (467)

CONVERTED TO ANGLED PARKING (28)

RESTRICTED PARKING (NO PARKING 7–9 AM, 4–6 PM) (13)

BUS STOP

Not to Scale

RECOMMENDED PARKING PLAN

KEY MAP
SCALE: 1"=500'

332 SPACE PARKING STRUCTURE

LEGEND

EXISTING PARKING TO REMAIN (136)	▨
EXISTING PARKING TO BE REMOVED (14)	▨
NEW PARKING SPACE (14)	▨
CONVERTED TO ANGLED PARKING (20)	▨
RESTRICTED PARKING (NO PARKING 7–9 AM, 4–6 PM) (34)	▨
BUS STOP	▰

Not to Scale

RECOMMENDED PARKING PLAN

EXHIBIT 7-2
SHEET 3 OF 3

Plan focuses heavily on the passenger vehicles. A straw poll vote conducted by the Steering Committee indicated that the group prefers Alternative 3, which would provide transit only lanes from Park Boulevard to Boundary Street eastbound and from Boundary Street to Florida Street westbound.

As stated previously, there are no physical or geometric differences between Alternative 3 and Alternative 5a. Therefore, if it is determined in the future that major transit travel time benefits could be achieved by extending the eastbound transit only lane to Park Boulevard, and the operational impacts to traffic could be mitigated, the transit only lanes could be extended to Park Boulevard as a future phase of the project.

The operational analysis of the corridor shows that maintaining the parallel parking and constraining the capacity to two lanes (one in each direction) along University Avenue through the core of the community results in significant delays to both passenger vehicles. The weaving that occurs at every block due to merging of transit vehicles from bus stops and merging of passenger vehicles into right turn lanes, and the queues that develop as a result of the constrained capacity would make accessing University Avenue difficult at best. Therefore, all of the alternatives would shift the parking along University Avenue to the side streets. Responding to the concerns of business owners along University Avenue, a parking alternative was evaluated that allows parking on University Avenue during the off-peak hours. Between the hours of 7:00 and 9:00 a.m. and from 4:00 to 6:00 p.m., the parking lane would serve as a transit only lane. It is recommended that this serve as an interim condition to meet the immediate needs of the businesses that do not have rear access. However, to achieve the operational benefits of the transit only lane for the corridor, and to meet the goal of a transit oriented village, as outlined in the Community Plan for Greater North Park, it is recommended that ultimately the on-street parallel parking be removed from University Avenue. North Park Main Street should continue to share information regarding the University Avenue Mobility Plan and to work with businesses, both new and old, helping to locate businesses that do not have heavy loading requirements to storefronts with no rear access.

City of San Diego transportation planning staff supports this peak hour parking restriction and indicates that similar restrictions are currently being implemented in downtown San Diego. SANDAG/MTS and the Steering Committee supported the removal of the on street parking from University Avenue. Based on a straw pole conducted by the Steering Committee, the group felt that the community would be best served if off-peak parking were not permitted along University Avenue. The straw poll showed that the majority of the Steering Committee members preferred that parking on the side streets be improved to allow for angle parking on both sides with loading zones provided on every block to meet these businesses needs.

7.6   Conclusions and Recommendations

Alternative 5a is recommended as the operationally superior Refined Concept Plan with Parking Alternative B. Alternative 5a would provide for the following improvements to University Avenue:

❖ Installation of Enhanced Pedestrian Crossings across University Avenue at Herman Street, Kansas Street & Alabama Street.

❖ Installation of New Traffic Signals at Oregon Street and Arnold Avenue.

❖ Transit Signal Priority at key signalized intersections.

❖ Removal of traffic signal at Ohio Street to reduce delays. Installation of Enhanced Pedestrian crossing at Ohio in place of traffic signal.

❖ Construction of raised median from Boundary Street to Park Boulevard to separate opposing traffic flow, limit the number of intersections with left turn access and help channelize left turning traffic from through lanes.

❖ Eastbound Transit Only Lane from Utah Street to Boundary Street. Peak hour only operations (7-9 a.m. and 4-6 p.m.) in the business core (Idaho Street to Iowa Street). On-street parking permitted in the Transit Only Lane during the off-peak in business core.

❖ Westbound Transit Only Lane from Florida Street to Boundary Street. Peak hour only operations (7-9 a.m. and 4-6 p.m.) in the business core (Idaho Street to (Iowa Street). On-street parking permitted in the off-peak in the Transit Only Lane during the off peak in the business core.

❖ Maintain restricted on-street parallel parking spaces (68) between Idaho Street and Iowa Street in Transit Only lane that can be used for parking and loading/unloading products during the off-peak in the short-term. In the long-term, parking should be prohibited on University Avenue.

❖ Increase parking on the side streets by converting the existing parallel parking to diagonal parking on all feasible streets.

❖ Provide for traffic calming measures on side streets and University Avenue to help slow traffic such as bulb-outs, increased on street parking and appropriate traffic controls at parallel street intersections.

Parking Alternative B would only restrict parking along University Avenue during the peak traffic periods of the day (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.). This alternative would meet the immediate needs of the businesses along the corridor. As businesses evolve along University Avenue, an effort should be made to educate new business owners about the removal of on-street parking along University Avenue. It should be the long-term goal of this project to remove the parallel on-street parking from University Avenue. This design is supported by City of San Diego staff, SANDAG/MTS, the project Steering Committee and members of the community surveyed at the June 12 Community Workshop.

Chapter 7 – Alternatives Analysis